

NASEDKIN, I.P., kand.tekhn.nauk; TSVELODUB, B.I., inzh.

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Permafrost Regions. Transp.stroi. 9 no.10:50-53 0 '59.

(MIRA 13:2)

(Frozen ground) (Railroads--Specifications)

YELINSON, I.I., kand.tekhn.nauk; NASHKIN, I.F., kand.tekhn.nauk

Making holes for contact-system poles in frozen ground. Transp.
stroil. 10 no.10:37-40 0 '60. (MIRA 13:10)
(Electric lines--Poles) (Frozen ground)

NASEDKIN, I.F., kand.tekhn.nauk; TSVELODUB, B.I., inzh.; BRUKVA, N.A., inzh.

Steadily raise the technical level of building the super-structure.
Transp. stroi. 12 no.8:10-12 Ag '62. (MIRA 15:9)
(Railroads—Construction)

NASEDKIN, K.

Theory of contractible double-jaw winding drums. p. 3

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WASEDKIN, K.

Dynamics of lifting tables. p. 373.

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NASEDKIN, K., inz.

Kinematics of a rifle class fig. 15 no. 5:458-478
'64

NASEDKIN, Leonid Petrovich, assistant

Optimum relationships of small heatproof power transformers.
Izv.vys.ucheb.zav.; elektromekhn. 7 no. 3:356-366 '64.
(MIRA 17:5)

1. Kafedra elektricheskikh mashin leningradskogo elektrotekhnicheskogo
instituta.

BASEDKIN, Leonid Petrovich, aspirant

Study of thermal operating conditions of small heat-resistant
power transformers. Izv. vys. ucheb. zav.; elektromekh. 6
no.5:557-564 '63. (MIRA 16:9)

1. Kafedra elektricheskikh mashin Leningradskogo elektrotekhnicheskogo
instituta.

(Electric transformers)

^M
NASEDKIN, V., inzhener.

Efficient types of buildings for cattle. Sel'.stroi. 11 no.11:14-15
N '56. (MIRA 10:1)

(Farm buildings)

NASEDKIN, V.M.

Organization and mechanization of housing construction in England.
Gor. i sel'. stroit. no. 2:20-23 F '57. (MLRA 10:6)

1. Zamestitel' ministra gorodskogo i sel'skogo stroitel'stva SSSR.
(Great Britain--Construction industry)

^M
NASEDKIN, V., inshener.

~~Management of construction on collective farms. Gor.1 sel'.stroi.~~
no.4:5 Ap '57.

(Construction industry)

(MLRA 10:5)

KAZINITSKIY, Mikhail Il'ich, inzh.; PLOTKIN, Naum Borisovich, inzh.;
TOLCHINSKIY, Aleksandr Aleksandrovich, inzh.; CHAPLITSKIY,
Vladimir Konstantinovich, inzh.; MAZUDKIN, V.M., inzh., retsentsent;
SIVITSKIY, K.P., inzh., retsentsent; KOTOVICH, B.M., dotsent,
retsentsent; VOLCHANSKIY, R.A., kand.tekhn.nauk, nauchnyy red.;
DENISOV, A.A., dotsent, nauchnyy red.; BILINSKIY, M.Ya., red.;
RAKOV, S.I., tekhn.red.

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isd-vo Trudreservizdat, 1959. 564 p. (MIRA 13:5)
(Building)

MASEDKIN, V.S.

Wood should be saved. Avtom., telem. i svias' 5 no.5:41 My '61.
(MIRA 14:6)

1. Nachal'nik Doma tekhniki Yushno-Ural'skoy dorogi.
(Electric lines--Poles)

NASEDKIN, V. V.

"Operation of Water Purification Unit according to the
Plan of Parallel H - Na Cationization," Elek. Stants, No.
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POLYAKOV, A.I., insh.; NASEDKIN, V.V., insh.; SECHUKA, A.I., insh.

Increase in the operational reliability of LaMont boilers.
Energetik 9 no.3:6-7 № '61. (MIRA 14:7)
(Boilers)

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15 pp 20 cm. (Min of Higher Education USSR, Mos ~~XXX~~ Order of Labor Red Banner Construction Engineering ~~XXXX~~ Inst in V. V. ~~XXXXXX~~ ~~Ktx~~ Kuybyshev), 110 copies (KL, 25-57, 114)

- 7⁴ -

NASEDKIN, V.V.

Cable-suspended and frame cable-suspended large-panel
apartment houses. Izv.vys.ucheb.zav.; stroi. i arkhit.
4 no.6:162-167 '61. (MIRA 15:2)

1. Tomskiy inzhenerno-stroitel'nyy institut.
(Apartment houses)
(Precast concrete construction)

NASEDKIN, V.V., dotsent

Efficient design details of apartment houses made of vibrated brick panels. Sbor. nauch. trud. TISI 8:14-20 '61. (MIRA 15:1)

1. Tomskiy inzhenerno-stroitel'nyy institut, kafedra arkhitektury.
(Apartment houses) (Brick walls)

NASEDKIN, V.V.

Petrographic criteria of the industrial use of ignimbrites.

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(MIRA 14:11)

1. Institut geologii rudnykh mestorozhdeniy, petrografii
mineralogii i geokhimii AN SSSR.

(Volcanic ash, tuff, etc.)

(Strength of materials)

PETROV, V.P.; NASEDKIN, V.V

Perlite and other acid natural volcanic glasses as rocks and
industrial raw materials. Trudy IGEM no.48:5-16 '61. (MIRA 15:1)
(Volcanic glass)
(Perlite (Mineral))

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Petrography and practical importance of perlites from the Mukhor-Tala deposit (Buryat A.S.S.R.). Trudy IGEM no.48:17-26 '61.
(MIRA 15:1)
(Mukhor-Tala region—Perlite (Mineral))

PETROV, V.P., doktor geologo-mineralogicheskikh nauk; NASEDKIN, V.V.,
inzh.geolog; POLINKOVSKAYA, A.I., kand. tekhn. nauk

Distribution of perlites on the territory of the U.S.S.R.;
their geological characteristics and technological pro-
perties. Sbor. trud. ROSNIIMS no.25:6-18 '62 (MIRA 17:8)

YAVITS, I.N., inzh.; NASEDKIN, V.V., inzh.

Effect of some properties of acid, volcanic, water-con-
taining glass on the quality of expanded perlite. Sber.
trud. ROSNIIMS no.25:94-104 '62 (MIRA 17:8)

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1. Predstavleno akademikom D.S. Korzhinskim.
(Perlite (Fiberal))

NASEDKIN, Vasily Viktorovich; PETROV, V.P., doktor geol.-mineral.nauk, otv.red.;
SHLEPOV, V.K., red.isd-va; VOLKOVA, V.V., tekhn.red.

[Water content in volcanic acid glasses, their genesis and changes;
studies in the field of nonmetallic minerals] Vodosoderzhashchie
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issledovaniia v oblasti nemetallicheskih poleznykh iskopaemykh.
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mineralogii i geokhimii. Trudy, no.98). (MIRA 16:5)

1. Institut geologii rudnykh mestorozhdeniy, mineralogii, petrografii
i geokhimii AN SSSR (for Petrov).
(Rocks, Igneous)

KIGAY, V.A.[translator]; LEBEDINSKIY, V.I.[translator];
NASEDKIN, V.V.[translator]; SPERANSKAYA, Ye.M.
[translator]; LEBEDEV, A.P., red.; POPOVA, V.I., red.;
KHAR'KOVSKAYA, L.M., tekhn. red.

[Problems of paleovolcanism] Problemy paleovulkanizma;
sbornik. Moskva, Izd-vo inostr. lit-ry, 1963. 585 p.
(MIRA 16:12)

(Rocks, Igneous) (Volcanic ash, tuff, etc.)

NASEDKIN, V. V.; RUDNITSKAYA, Ye. S.; PANESH, V. I.

2

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GENSHAFT, Yu.S.; NASEDKIN, V.V.; RYABININ, Yu.N.; PETROV, V.P.

Crystallization of basalt at the pressure of 25 kilobars and
temperatures from 800° to 1300°. Sov. geol. 8 no.8:26-31 Ag
'65. (MIRA 18:10)

1. Institut fiziki Zemli AN SSSR i Institut geologii rudnykh
mestorozhdeniy, petrografii, mineralologii i geokhimii AN SSSR.

MINACHEV, Kh.M.; VAKK, E.G.; DMITRIYEV, R.V.; NASEDKIN, Ye.A.

Isotopic exchange of hydrogen in hydrocarbons on rare-earth oxides.
Report No.2: Deuterium exchange in cyclohexane on neodymium,
gadolinium, aluminum oxides, cerium dioxide, and neodymium
oxide on aluminum oxide. Izv. AN SSSR. Ser.khim. no.3:421-426
Mr '64. (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

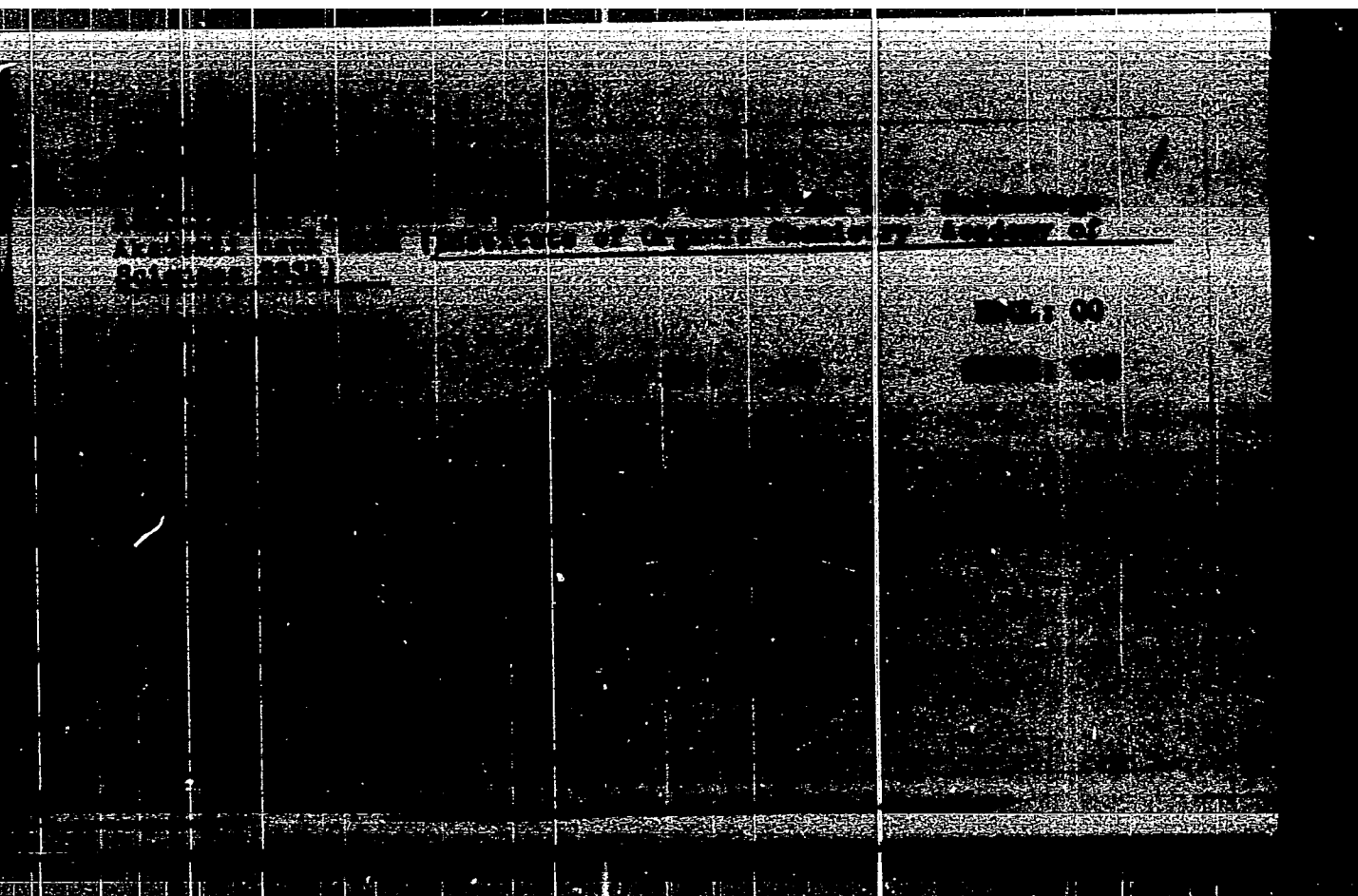
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101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554
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1957-1961 The kinetics of the isotopic exchange between molecular oxygen and atomic and atomic oxides and of the reaction $O_2 + O_2^{18}$ on the surface of some typical oxides were studied. The oxygen was obtained by electrolysis of water, enrichment with O^{18} and purification; a non-equilibrium mixture of O_2 and O_2^{18} was prepared by mixing gases with 7 and 37 wt. % O^{18} . The oxides were activated by heating for 6 hours at 500°C under vacuum to 10⁻⁵ mm Hg. Isotopic exchange between molecular oxygen and the oxides was carried out at 200-1000°C under oxygen pressure. The reaction rate was measured by mass spectrometry. The reaction rate was found to be the same for all oxides studied.

The results of the kinetic measurements at 10-15 Pa showed that the reaction could be described by a first order equation. The energies of activation for the O_2-MgO and the isotopic exchange reactions were calculated. Increasing the temperature for conditioning the MgO from 100 to 1500 K did not affect the catalytic properties with respect to the isotopic oxygen exchange reaction. According to x-ray analysis its surface did not change; IR spectra showed the intensity of the 3450 cm^{-1} band, characteristic of the OH-group was only slightly reduced in the sample treated at the higher temperature; the energies of activation for the exchange reactions were independent of temperature. It was concluded that both exchange reactions ($O_2-Mg_2O_3$ and $O_2^{16} + O_2^{18} \rightarrow 2O_2^{16/18}$) have a general limiting stage.

The authors thank V. Ya. Levin for x-ray structural and IR analysis of the catalysts. The authors are grateful to A. A. Kiselev and I. A. Kiseleva for their assistance in the experiments.



MINACHEV, Kh.M.; VAKK, E.G.; DMITRIYEV, R.V.; NASEDKIN, Ye.A.; FEDYUNIN, Yu.A.

Isotopic exchange of hydrogen in hydrocarbons on rare-earth oxides.
Report No.3: Deuterium exchange in hydrocarbons on gadolinium oxide.
Izv. AN SSSR. Ser. khim. no.4:618-625 '65. (MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

33160

S/120/61/000/006/031/041
E035/E435

9.2560 (1024, 1154, 1161)

AUTHORS: Revokatov, O.P. Nasedkin Ye.F.

TITLE: An electromagnet current stabilizer

PERIODICAL Pribery i tekhnika eksperimenta no.6 1961 132 133

TEXT: The stabilizer circuit is shown in the figure. The reference resistor $R_0 \approx 10 \Omega$ is made from manganin wire bifilar wound on a vinylchloride tube. The circuit is assembled on a sheet of insulating board. The power transistors have additional radiators and the first four amplifying transistors are enclosed by screens provided with inlets for thermostating liquids. The reference resistor and the insulating board with the transistors are immersed in kerosene which is intimately mixed by a stirrer and cooled by a spiral coil through which water flows from a water supply. The voltage across the reference resistor is compared with a voltage derived from a battery ($E_0 \approx 50$ V), made up from mercury oxide elements (GP-4 OR 4) the temperature stability of which is better than $3 \times 10^{-3} \% / ^\circ C$. The battery is placed in a thermally insulating housing but not subjected to temperature control. The difference voltage is fed to the base of the type P403 (P403) amplifying transistor.

Card 1/4

3510

S/120/61/000/006/031/041

E035/E435

An electromagnet current .

The load of Π_1 is d.c. coupled by means of transistor $\Pi 103$ (P103) and resistor $9.1 \text{ k}\Omega$ (Π_2 R_2) a voltage amplification coefficient of the first stage of not less than 10^2 may be obtained. The following stage (transistor $\Pi 101$ (P101) and load $5.1 \text{ k}\Omega$ (Π_3 R_3)) is likewise a voltage amplifier conventionally used with grounded emitter. A normal low voltage accumulator serves as a supply source for these transistors (Π_1 Π_3). The subsequent stages, conventionally used with grounded collectors are current amplifiers (Π_4 - $\Pi 160$ (P16B) Π_5 - $\Pi 601$ (P601) Π_6 - $\Pi 209A$ (P209A)). For checking the operation of the system a voltmeter is used (not shown in the circuit) which measures the emitter collector voltage of Π_7 - $\Pi 8$. For starting and stopping the stabilizer a circuit is used consisting of Π_9 P601, Π_{10} - $\Pi 811$ (D811) R_4 - $1 \text{ k}\Omega$ (maintaining I_{ref} at 0.1 A) and a starter R_1 being a liquid resistance of $100 \text{ }\Omega$ cross sectional area. The stabilizer operates in the following manner: the reference battery circuit is open and switch B_{K5} closed. The accumulator feeds Π_{1-3} . The voltage is gradually introduced by means of the liquid rheostat. The reference battery is put into the circuit and R_4 introduced after which the voltage is set. Card 2/4

An electromagnet current ...

33260
S/120/61/000/006/031/041
E033/E435

to control by feedback. Then B_{K3} is opened; the magnet current is regulated by potentiometer R_5 . The zener diode R_1 protects the transistors from breaking down. The protection device Π_p limits the current to the bases of the Π_{7-8} transistors. For determining the stability of the stabilizer, the signal was fed, after amplification, to a recording potentiometer. The system having previously been calibrated. Moreover, the stability was indirectly evaluated by the stability of the proton resonance with time in the electromagnet field, the current of which was stabilized (width of signal 10 Mc/s, field of electromagnet 6000 Oe). The magnet current 5 A with a resistance of 30Ω and a supply from a d.c. generator at 220 ± 2 V was successfully stabilized to an accuracy of about 1×10^{-6} . There are 1 figure and 2 non-Soviet-bloc references. The references to English language publications read as follows:
Ref.1: S.D.Johnson, J.R.Singer, Rev. Scient. Instrum., v.29, 1958, 1026; Ref.2: K.C.Brog, E.J.Milford, Rev. Scient. Instrum., v.31, 1960, 321.

ASSOCIATION: Fizicheskii fakul'tet MGU (Physics Division MGU)

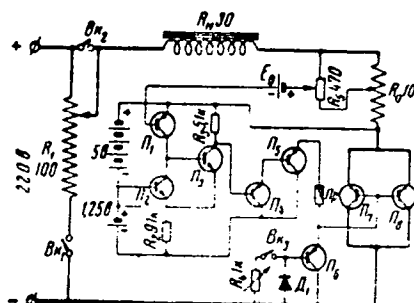
Card 3/4

An electromagnet current ...

SUBMITTED: April 15, 1961

33160
S/120/61/OCC/O06/O31/C41
E033/3435

Fig.



Card 4/4

NASEDKIN, Yu. F.

"Investigation of a Ring Gas Discharge in a Transverse Magnetic Field." (Work - 1955);
pp. 264-282.

"The Physics of Plasmas,; Problems of Controlled Thermonuclear Reactions," Vol. II.
1958, published by Inst Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, Editorial work V. I. Kogan.

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"Investigation of a Powerful Ring Gas Discharge in the Presence of an Equilibrium Orbit." (Work carried out in 1956); pp. 182-195.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. III. 1958, published by INST. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

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NASEDKIN, Yu. F. AND PAVLOV, E. I.

"The Influence of the Form of the Magnetic Field on the Ring Gas Discharge. (Work carried out in 1957); pp. 214-230.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. III. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

NASEDKIN, Ya.F. (and S. M. Osovets, E. I. Pavlov, Ya. F. Petrov, M. I. Shchedrin)

"INVESTIGATING THE EQUILIBRIUM PLASMIC TURN IN A TRANSVERSE MAGNETIC FIELD".

By S. M. Osovets, Ya. F. Nasedkin, E. I. Pavlov, Ya. F. Petrov and M. I. Shchedrin.

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept. 1958.

NASEDKINA, V.A.; BELAVENTSEVA, G.N.; KHOVANSKIY, I.P. *technicheskiy*

[Origin and development of life on the earth. Origin of man]
Vozniknovenie i razvitie zhizni na zemle. Proiskhozhdenie
cheloveka. Izd. 2-e, dop. Moskva, Gos.bib-ka SSSR imeni V.I.
Lenina. 1955. 52 p. (MIRA 8:9)
(Life--Origin) (Man--Origin)

NASHCHKINA, V.A.; FOMINA, Ye.N., red.; VASIL'YENVA, L.P., tekhn.red.

[Submarine world] Podvodnyi mir. Moskva, M-v: kul'tury
BSF83, 1959. 17 p. (Besedy o nauchno-populiarnykh knigakh,
no.6) (MIRA 12:8)
(Bibliography--Oceanographic research)

NASEDKINA, Vera Aleksandrovna; PLAVIL'SHCHIKOV, N.N., prof.,
nauchnyy red.; BOGATOVA, G.P., red.; KHOVANSKIY, I.P., tekhn.
red.

[Living nature; an index of scientific and popular literature]
Zhiivaia priroda; ukazatel' nauchno-populiarnoi literatury. Na-
uchnaia red. N.N.Plavil'shchikova. Izd.3., dop. i perer. Mo-
skva, Gos. biblioteka SSSR, im. V.I.Lenina, 1962. 115 p.
(MIRA 15:5)

(Bibliography—Natural history)

MASEDKINA, Ye.A.

Proteolytic activity of the tissue enzymes of salmon meat. Izv.-
vys.ucheb.sav.; pishch.tekh. 2:87-92 '62. (MIRA 15:5)

1. Tikhookeanskiy nauchno-issledovatel'skiy institut rybnogo
khosyaystva i okeanografii, tekhnologicheskaya laboratoriya.
(Fish, Salt) (Enzymes)

ACC NR: AT7000577

(A)

SOURCE CODE: UR/0000/63/000/000/0145/0156

AUTHOR: Nasedkina, Ye. A.

ORG: none

TITLE: Changes in the composition of Pacific Ocean salmon meat when salted and seasoned

SOURCE: Vladivostok. Dal'nevostochnyy tekhnicheskii institut rybnoy promyshlennosti i khozyaystva. Trudy, no. 3, 1963, 145-156

TOPIC TAGS: food technology, food sanitation, fermentation, protein

ABSTRACT: A detailed study on salting and storing of Pacific ocean salmon is described; the physical and biochemical changes of salmon are considered. The study was conducted in TINRO laboratories and combines under the direction of I. V. Kisevetter. A fall catch of salmon (weight of samples, 30.--4.5 kg) caught along the coast of Northern Sakhalin was used in the study which was conducted during a 250-day period at temperatures of 0 to -8C. Organoleptic, chemical, mechanical, hystological, and microbiological tests were simultaneously conducted on the salmon to find the factors that determine the seasoning process of salted salmon. From nineteen factors that were initially used only five were found to reflect the seasoning process; they were related to albuminous nitrogen, nitrogen dissolved in the salted water, the buffer qualities of the salted meat, and amounts of amino acids and polypeptides.

Card 1/2

ACC NR: AT7000577

Orig. art. has: 3 tables and 3 figures.

SUB CODE: 06/ SUM DATE: 18May63/ ORIG REF: 011

Cont. 2/2

NASEDKINA, YE. P.

137-1958-1-75

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 13 (USSR)

AUTHORS: Sagradyan, A. L., Nagirnyak, F. I., Nasedkina, Ye. P.

TITLE: Industrial Experience in Perfecting the Use of Selective Flotation of the Copper-Zinc Ores of the Novo-Sibayevsk Deposits
(Promyshlennyy opyt ~~osvoyeniya~~ selektivnoy flotatsii medno-tsinkovoy rudy Novo-Sibayevskogo mestorozhdeniya)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 11-12, pp 33-38

ABSTRACT: A procedure has been developed and perfected to assure attainment of the planned level of ore crushing prior to copper flotation. In accordance with the plans for completing the equipment of Nr 3 section, de-sliming has been introduced into the ore-dressing procedure. The most important special feature of the use of reagents in the flotation is that the ore is crushed in a weakly alkaline medium containing not more than 5 to 15 g/m³ of CaO in the classifier tailings. Depression of ZnS and FeS₂ is accomplished by feeding Na₂S, ZnSO₄ and NaCN into the crushing process, the bulk of the depressors being delivered at the moment when the grains are initially unlocked. When the process has attained

Card 1/2

137-1958-1-75

Industrial Experience in Perfecting the Use of Selective Flotation (cont.)

stability, lower amounts of NaCN should be charged. The Na_2S has to be metered throughout the process, as its consumption depends upon the content of water-soluble salts in the ore. The best collector proved to be butyl aeroflot in a mixture with butyl xanthogenate. The production indices were greatly influenced by the sequencing procedure used in turning on the flotation machines, the rate of output of the various sections, and the composition of the ore. When the procedure involving use of hydrocyclones using middlings from bowl-type classifiers was used, the hydrocyclone product sizes for feed to the flotation process corresponded to the design specification - 200 mesh.

A. Sh.

1. Copper ores--Flotation 2. Zinc ores--Flotation 3. Ores
--Processing

Card 2/2

NASEIKAYLO, G. V.

"The Effect of Pouring Method of Test Specimens on Cast Steel Properties."
From the book, "Heat Treatment and Properties of Cast Steel." edited by
N. S. Kreshchenovskiy, Mashgiz, Moscow 1955.

NASEKIN, I. P.

"Binocular Vision and Methods of Restoring It in Strabismus." Cand Med
Sci, First Moscow Order of Lenin Medical Inst, 29 Nov 54. (VM, 17 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

ALEKSANDROV, G.N., prof.; NASEKIN, M.T., assistant

Size of the pelvis in female human fetuses. Med. zhur. Uzb.
no.7:60-64 J1 '63. (MIRA 17:2)

1. Iz kafedry operativnoy khirurgii s topograficheskoy
anatomiyey Samarkandskogo meditsinskogo instituta imeni
I.P. Pavlova.

67202

SOV/58-59-7-15782

24.7700

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, p 161 (USSR)

AUTHORS: Chepur, D.B., Nasekovskiy, A.P.

TITLE: Effect of Admixtures of Tellurium and Vapors of Certain Substances on the Photoconductivity of Polycrystalline Plates of Mercurous Iodide

PERIODICAL: Dokl. i soobshch. Uzhgorodsk. un-t, 1958, Nr 2, pp 23 - 24

ABSTRACT: The authors demonstrated experimentally that even minute amounts of Te (less than 0.001%) have a substantial effect on the magnitude and character of photoconductivity in polycrystalline plates of mercurous iodide. In the presence of admixtures of Te photoconductivity increases, inertness ordinarily decreases somewhat, and spectral characteristics spread appreciably in the direction of the longer wavelengths. As the concentration of Te is gradually increased, photoelectric sensitivity rises, while specific resistivity and inertness fall off. The enhanced sensitivity and reduced inertness point to an increase in the quantum

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SOV/58-59-7-15782

Effect of Admixtures of Tellurium and Vapors of Certain Substances on the Photo-conductivity of Polycrystalline Plates of Mercurous Iodide

yield of the photocurrent. A significant enhancement of the sensitivity of the investigated samples was also observed when they were placed in an atmosphere of vapors of ammonia, acetone, and ethyl and isoamyl alcohol.

N.V. Vasil'chenko

Card 2/2

NASENKO, Yuriy Petrovich, kand.istor.nauk; LIVSHITS, Ya.L., red.;
SAVCHENKO, Ye.V., tekhn.red.

[The republic of India] Respublika Indii. Moskva, Izd-vo
"Znanie," 1960. 46 p. (Vsesoluznoe obshchestvo po raspro-
straneniю politicheskikh i nauchnykh znaniy. Ser.7, Mezhdu-
narodnaia, no.2) (MIRA 13:1)
(India)

1. NASENKOV, A.
2. USSR (600)
4. Bee Culture - Manayskiy District
7. Beekeeping in Mangyskiy District (Khabarovsk Territory). A. Nasenkov.,
Pchelovodstvo 29 no. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

MARINESKU, V. [Marinescu, V.] prof.; SETLACHEK, D.; NASH, F.

Restoration of the arterial circulation in extracranial
occlusions of the carotid artery. Khirurgia 39 no.8:
100-107 Ag '63. (MIRA 17:6)

1. Iz khirurgicheskogo otdeleniya bol'nitsy Funden' (rukovoditel'-
prof. V. Marinesku [Marinescu, V.] i neyrokhirurgicheskogo
otdeleniya bol'nitsy imeni G. Marinesku (rukovoditel'- prof.
K.A. Arseni), Bakharest.

NASHATYR', G.M.; VAYSMAN, N.A.

The 2614-type universal horizontal boring machine. Biul.tekh.-
ekon.inform. no.8:30-32 '59. (MIRA 13:1)
(Drilling and boring machinery)

NASHATY R', V. M.

PA 51/49T18

WASH/Electricity

May 49

Transmission Lines, High-Voltage

"Diagram for Simultaneous Connection of Several High-Voltage Circuits" V. V. Baylan, V. M. Nashatyr', Leningrad Polytech Inst, 3 pp

"Zhur Tekh Fiz" Vol XIX, No 5

Describes arrangement worked out in Lab of High-Voltage Techniques, Leningrad Polytech Inst, which permits practically instantaneous inclusion of a number of circuits, making use of small charging condensers, a dividing resistance, auxiliary switches, and a spark gap. Tests showed stability of arrangement. Time lag in switching in separate circuits was almost completely eliminated.

Submitted 7 Jul 48.

31/1948

NASHATYR, V. M.

The following is among dissertations of the Leningrad Polytechnic Institute imeni Kalinin:

"Investigation of Two-Frequency Oscillating Circuit with Current Displacement of increased Frequency for testing the Switching-Off Capacity of High-Voltage Switches." al December 1953. An analysis is given of the system which develops the Gorev idea of the oscillating circuit and the Kaplan idea of the combination of the basic and increased frequencies in the Gorev system-- systems of a two-frequency oscillating circuit with current displacement of increased frequency.

SO: M-1048, 28, Mar 56

NASHATYR, V. M.

Electrical Eng-
ineering Abst.
Section B
March 1954
Installations.
Switchgear.

Leningrad Polytech Inst. in Kalinin

621 316.57 (00) 4 : 621 372 41
524. Use of coupled oscillatory circuits for testing
slow-acting h.v. circuit breakers. V. V. KAPLAN AND
V. M. NASHATYR. *Elektrichestvo*, 1953, No. 5, 11-12
In Russian.

The use of a synchronous generator for loss compensation in the oscillation circuit makes it possible, in principle, to obtain an undamped testing current for a considerable period, but requires costly additional installations. In testing modern h.v. circuit breakers in which the arc will last an appreciable time, it is necessary to maintain an undamped testing current for as long as 3-8 half-periods of the commercial frequency. This is better achieved by the use of coupled oscillation circuits than by the conventional single and double-frequency oscillation circuits. If the circuit breakers are tested for breaking capacities smaller than the test power of the oscillatory circuit, such coupled circuits may be built up from the elements of the original oscillatory circuit and only simple synchronizing devices are required.

B. F. KRAVY

NASHATYR', V. M.

Subject : USSR/Electricity AID P - 952
Card 1/1 Pub. 27 - 21/25
Authors : Kaplan, V. V., Kand. of Tech. Sci. and Nashatyr', V. M.,
Eng.
Title : In defense of authors' rights
Periodical : Elektrichestvo, 10, 90, 0 1954
Abstract : The authors protests against the violation of their
authors' rights by the German firm AEG. Namely an article
in No. 8, 1954 of the periodical ETZ, by F. Petermichl
"Die Einrichtung des Hochspannungsinstitutes der AEG" shows
a testing connection diagram apparently based on the ori-
ginal diagram introduced by the authors in an article in
Elektrichestvo, No. 6, 1951. No credit was given in the
ETZ to the authorship of the diagram.
Institution : Not given
Submitted : No date

NASHATYR, V.M.

22

2

copy

3786. TESTING CURRENT-LIMITING H.V. FUSES IN AN OSCILLATORY CIRCUIT. V.V. Kaplan and V.M. Nashatyr. Elektricheskoye, 1956, No. 5, 40-42. In Russian.

Despite the considerable active losses and the non-sinusoidal character of the current in current-limiting fuses, the latter may be tested in a synthetic testing circuit by using special methods to produce conditions equivalent to service conditions. When fuses are tested in this circuit at extreme

breaking currents and with considerable current-limitation, the equivalent testing power of the circuit may be increased several times over the actual power of the oscillatory circuit, so that such tests are absolutely conclusive. On the other hand, this oscillatory circuit also enables fuses to be tested at breaking currents exceeding the current rating of the fuses only by a small amount, so that the fusing time is of the order of several half-periods. In this case it is convenient to use coupled oscillatory circuits so that undamped current and voltage curves are obtained in the testing circuit.

B.F. Kraus

BS

NASHATYR V.M.

89

AUTHOR: Kaplan, V.V., Cand. Tech. Sci., and Nashatyr', V.M.,
Cand. Tech. Sci.

TITLE: Method of Investigating the Closing of Powerful High
Voltage Circuit Breakers (Metod issledovaniya
vkl'yuchayushchey sposobnosti moshchnykh vyklyuchateley
vysokogo napryazheniya)

PERIODICAL: Vestnik Elektromyshlennosti, 1957, No. 2, pp.46-50
(U.S.S.R.)

ABSTRACT: New types of switch gear being developed must be tested
for closing against a short-circuit. This may be done
either on a full power circuit or by various substitu-
tion methods. There is some doubt whether the substi-
tution methods applied hitherto have always been
sufficiently stringent. It is certainly necessary to
reproduce as nearly as possible the amplitude of the
initial impulse currents which may occur in operation.
The test should be made both with a maximum aperiodic
current component and without such a component.

Card 1/4

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TITLE:

Method of Investigating the Closing of Powerful High Voltage Circuit Breakers (Metod issledovaniya vklyuchayushchey sposobnosti moshchnykh vyklyuchateley vysokogo napryazheniya)

At the Leningrad Polytechnical Institute methods have been developed of carrying out all the necessary tests on circuit breakers using oscillatory circuit installations. The power available in existing laboratories is insufficient to carry out full scale tests and, therefore, synthetic conditions equivalent to those in real circuits have to be set up in the laboratory.

Synthetic circuits are then described for testing circuit breakers for closing against a short circuit with and without an aperiodic component in the current.

The installations were used to test a small-oil-volume circuit breaker type *MT-110* closing on currents corresponding to rupturing capacities of 2500 - 4000 MVA. The test results are given in the form of an oscillogram

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TITLE:

Method of Investigating the Closing of Powerful High Voltage Circuit Breakers (Metod issledovaniya vklyuchayushchey sposobnosti moshechnykh vyklyuchateley vysokogo napryazheniya)

for the case of presence of full aperiodic component in the current curve. The peak current amplitude was 31 800 A which corresponds to an alternating component of 13 200 A and a symmetrical power of 2 500 MVA; the length of the gap at breakdown was 3 1/2 mm. The tests showed that the circuit breaker copes successfully with closure on short circuit with currents corresponding to a power of 3 500 - 4 000 MVA. When closing on these currents no damage was incurred which could prevent normal operation of the circuit breaker, and contact damage was not serious.

The tests also showed that multiple closure of the circuit breaker on to a short circuit, like opening a short circuit, reduces the electric strength of the internal insulation by contamination with carbon from

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TITLE:

Method of Investigating the Closing of Powerful High Voltage Circuit Breakers (Metod issledovaniya vklyuchayushchey sposobnosti moshchnykh vyklyuchateley vysokogo napryazheniya)

the oil and fine metal particles from the contacts. Therefore, the number of closures on short circuit that should be permitted in service before inspection should be limited. The limitations should include the number of times of breaking short circuits as well as closing on short circuits.

The article contains 6 diagrams; there are no references.

ASSOCIATION:

Leningrad Polytechnical Institute (Leningradskiy politekhnicheskiy institut)

PRESENTED BY:

SUBMITTED:

AVAILABLE:
Card 4/4

Library of Congress

10. AS SHATYR, V. V.

KAPLAN, V.V., kandidat tekhnicheskikh nauk; NASHATYR, V.V., kandidat tekhnicheskikh nauk.

Investigating the interrupting capacity and internal insulation reliability of the MG-110 circuit breaker. Elektrichestvo no.7:68-70 J1 '57. (PLRA 10:8)

Leningradskiy politekhnicheskii institut.
(electric circuit breakers)

NASHATYR' V.M.

AUTHOR: 1) Cand.Tech.Sc.V.V.KAPLAN, Cand.Tech.Sc. . 105-8-17/20
NASHATYR', V.M.
2) ~~Dr.Tech.Sc.Prof.G.I.SHTURMAN~~, Cand.Tech.Sc.E.A.YAKUBAYTIS,
Cand.Tech.Sc.A.P.KROGERIS, Cand.Tech.Sc.V.V.APSIT,
Cand.Tech.Sc.A.G.ZDROK, Cand.Tech.Sc.Ass.Prof.G.P.SMIRNOV

TITLE: 1) On the Testing of Current-Limiting High-Frequency Fuses in
an Oscillatory Circuit. (Ispytaniye vysokovol'tnykh tokoogra-
nichivayushchikh predokhraniteley na kolebatel'nom konture)
2) On the Work of the Saturation Impedance with a Semiconductor
Rectifier and Active Induction Load. (Rabota drosselya
nasyshcheniya s poluprovodnikovym vypryamitelem i aktivno-
induktivnoy nagruzkoy)

PERIODICAL: Elektrichestvo, Nr 8, pp 74 - 77 (U.S.S.R.) , 1957

ABSTRACT: 1) Refers to the article by both authors in Elektrichestvo, 1956,
Nr 5. Reference is made to the letter by Dr.A.Myslitskiy
(Poland). The latter writes that only symmetrical short-
circuit current curves are given in the article, whereas
in a number of cases especially difficult conditions develop
for the switching off of an arc in a high-frequency fuse, due
to the presence of an aperiodic component in the short-circuit
current. The authors announce that in later works a system
was used by means of which investigations can be made on

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105-8-17/20

- 1) On the Testing of Current-Limiting High-Frequency Fuses in an Oscillatory Circuit.
- 2) On the Work of the Saturation Impedance with a Semiconductor Rectifier and Active Induction Load.
- 1) The circuit-breaking capacities of the current-limiting fuses in an oscillatory circuit not only in the case of symmetrical short-circuit current curves, but also in the presence of an aperiodic component in the current curve. (2 illustrations)
- 2) Refers to the article by A.G.Zdrok and G.P.Smirnov in Elektrichestvo, 1956, Nr 10. Zdrok and Smirnov are reproached by the first four above-mentioned authors the following: it is only in the third part of the paper that a concrete statement of problems may be comprehended; it is completely unintelligible which problem is exactly treated in the first part of the paper; why they cite data by Komar and Kaganov as their own; the paper is only a great disorder without giving any solution. The authors state that they only wanted to give recent data and point out experiments without describing them. (With 2 Slavic references)

Card 2/2

NASHATYR', V. M.,

"Methods of Generating Sustained Oscillations in Installations of the A. A. GOREV Tank-Circuit Type Without the Use of Rotating Machines," with KAPLAN, V. V., p 425.

"Testing High-voltage Circuit Breakers with a Two-frequency Tank Circuit With Some Half-Periods of Arcing, " with KAPLAN, V. M., p 451.

"Determination of Permissible Number of Short-Circuit Current Cut-offs of a Low-oil Content Circuit Breaker According to the Conditions of Lowered Electrical Strength of Its Internal Insulation," with KAPLAN, V. V., and SHERMAN, Ya. N., p 460.

"Some Problems in the Physical Representation of the A-C Arc-quenching Process in High-voltage Circuit Breakers," with KAPLAN, V. V. p 470.

High Voltage Technique, Moscow, Gosenergoizdat, 1958, 664pp
(Series: Its Trudy, No. 195)

This collection of articles sums up the principal results of investigations and studies made by Prof. A. A. Gorev, Dr. Tech. Sci., and his staff in the field of high voltage phenomena and techniques at LPI (Leningrad Polytech Inst.) It was at this institute that Prof. Gorev completed his higher scientific education and then taught and carried on his investigations in the field until his death in 1953. In 1956, by decree of Min of Higher Education, the High-Voltage Lab. at LPI was named after A. A. Gorev.

NASHATYR', V. M.,

"Studying High-voltage Circuit Breakers in Laboratory Installations Under Conditions Simulating Cut-off of No-load Lines," with KAPLAN, V. V., 1958, 1 p.

High Voltage Technique, Moscow, Gosenergizdat, 1958, 664pp
(Series: Its Trudy, No. 195)

This collection of articles sums up the principal results of investigations and studies made by Prof. A. A. Gorev, Dr. Tech. Sci., and his staff in the field of high voltage phenomena and techniques at LPI (Leningrad Polytech Inst.) It was at this institute that Prof. Gorev completed his higher scientific education and then taught and carried on his investigations in the field until his death in 1953. In 1956, by decree of Min of Higher Education, the High-Voltage Lab. at LPI was named after A. A. Gorev.

KAPLAN, V.V.; NASHATYR', V.M.

Synthetic bifrequency method for testing high-voltage circuit
breakers for their commutation ability. Izv. vys. ucheb. zav.;
elektromekh. 1 no.4:82-91 '58. (MIRA 11:8)
(Electric circuit breakers--Testing)

KAPLAN, V.V.; NASHATYR', V.M.; IVANOV, V.L.

Methods of synthetic testing of high-voltage switches for their
disconnecting ability. Izv. vuz. ucheb. zav.; elektromekh. 1

no.5:63-71 58.

(MIRA 11:8)

(Electric switchgear--Testing)

110-58-6-7/22

AUTHORS: Kaplan, V.V., Nashatyr', V.M., Candidates of Technical Sciences and Ivanov, V.L., Engineer.

TITLE: Switching Over-voltages When Using Small-oil-volume Circuit-breaker Type MG-110 to Disconnect Unloaded Transformers and Lines (Kommutatsionnyye perenapryazheniya pri otklyuchenii malomaslyanykh vyklyuchatelem tipa MG-110 nenagruzhennykh transformatorov i liniy)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, Nr 6, pp 31 - 37 (USSR)

ABSTRACT: Over-voltages that are set up when switching unloaded lines and transformers largely determine the insulation level. Over-voltage measurements can rarely be made on full-scale systems and laboratory tests of circuit-breakers are therefore necessary. The article describes tests on a 110-kv small-oil-volume circuit breaker of 2 500 MVA, type MG-110, built by the Elektroapparat Works, breaking small inductive and capacitive currents. The tests were made in the Gorev laboratory of the Leningradskiy politekhnicheskii institut (Leningrad Polytechnical Institute) on equivalent circuits specially designed for this application and using oscillatory circuits as the source of e.m.f.

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110-58-6-7/22

Switching Over-voltages When Using Small-oil-volume Circuit-breaker
Type MG-110 to Disconnect Unloaded Transformers and Lines

The circuit of Figure 1 was employed in experiments on disconnecting an unloaded transformer. As the oscillatory circuit can provide undamped oscillations for only a short time, the test must be so arranged that steady no-load current flows in the transformer as soon as possible after it is connected to the supply. Therefore, the transformer is connected through a damping resistance. The first tests were made with the transformer de-magnetised by a special procedure. The test procedure is fully described. The circuit-breaker was tested under single-phase conditions, to represent disconnection by one pole of the circuit-breaker of a transformer with grounded neutral. The test voltage equalled the system phase-voltage. To represent tests on transformers with unearthed neutral, some of the tests used a voltage of one-and-a-half times the system voltage. Tests were made with one arc-quenching chamber and with two connected in series. Other tests corresponded to disconnection of three-phase transformers with earthed and isolated neutral, with outputs of 31.5 to 189 MVA. The current amplitude ranged from 6 to 64 A.

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Switching Over-voltages When Using Small-oil-volume Circuit-breaker
Type MG-110 to Disconnect Unloaded Transformers and Lines

The circuit-breaker was tested both with and without arrangements for high-speed reclosure. The results of all the tests are summarised in Figure 2. They show that both types of small-oil-volume circuit-breaker successfully break transformer magnetising current without appreciable over-voltages. In most tests, the over-voltage was not more than double the normal power-frequency voltage and in one case, only, it rose to 240%. For a given value of current there is considerable scatter of the time for which the arc burns: in most cases it was from 0.01 to 0.03 sec and only occasionally did it rise to 0.04 sec when the current was more than 30A. The relationship between the over-voltage factor on the transformer and the number of occurrences as a percentage of the total is plotted in Fig.3, which shows that, over the current range 5 - 15 A, the highest over-voltage was 134% of the normal value. Oscillograms showed that the current was interrupted somewhat before the current would normally pass through zero and whilst it still had some finite value. This effect is important in evaluating the operation of switchgear, since

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Switching Over-voltages When Using Small-oil-volume Circuit-breaker
Type MG-110 to Disconnect Unloaded Transformers and Lines

the instantaneous-current value at the instant of interruption largely governs the transformer over-voltage. Many attempts have been made to explain the phenomena of interrupting small inductive currents, but none is completely convincing. Typical current oscillograms at the instant of interruption are shown in Figure 4 and indicate that the effect of interruption at a finite current value may occur whether or not high-frequency oscillations are present. The conditions under which the arc becomes unstable in this way are discussed.

The process of this kind of interruption can be characterised by a system of differential equations relating the circuit-breaker current and the transformer inductive and capacitive currents. Calculated curves of the current at the moment of interruption are plotted in Figure 5 for the initial conditions of the oscillograms of Figures 4a and 4b. A comparison of curves 5a and 4a shows that the calculated current curves are near enough to the experimental ones. The time interval from the instant of start of fall

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Switching Over-voltages When Using Small-oil-volume Circuit-breaker
Type MG-110 to Disconnect Unloaded Transformers and Lines

of current to zero current is the same in both cases. Thus, it follows that the presence of high-frequency oscillations does not determine whether the current is interrupted before the normal zero, as is required by current theories of the subject. The new explanation offered in the article does not preclude occurrence of preliminary high-frequency oscillations but suggests that the mode of current interruption in any particular case depends on the conditions and that even with given conditions considerable scatter is observed.

Investigations on the circuit-breaker when disconnecting unloaded lines were made on an equivalent circuit with concentrated constants, as shown in Figure 6. The requirements that must be met to reproduce the actual conditions are stated and can be satisfied by this circuit. The source of undamped sinusoidal e.m.f. is a system of interconnected oscillatory circuits. Both types of breaker were tested whilst reproducing the conditions of an unloaded line of 200 km, which is about the longest Soviet 110-kV line. The power-frequency current interrupted was up to 40 A. The arc-suppression

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110-51-6-7/22

Switching Over-voltages When Using Small-oil-volume Circuit-breaker
Type MG-110 to Disconnect Unloaded Transformers and Lines

device of the small-oil-volume 220-kV circuit-breakers developed by the Elektroapparat Works (type MG-220) has four series arc-suppression chambers of the same construction as that used in the 110-kV breaker: hence, it was decided to verify the performance of the 220-kV breaker on a circuit equivalent to open lines 400 km long.

The tests were made on a single arc-suppression chamber and preliminary tests showed that such partial testing is accurate enough for practical purposes. In no case, did the over-voltage exceed double the normal value and the arc is finally interrupted before the contacts reach the fully-open position. Power-frequency current is usually interrupted at the first current-zero; then the arc usually re-strikes and finally the high-frequency interruption takes place, without, however, giving rise to high over-voltages. This re-striking effect is of a highly statistical nature; it may or may not occur under given conditions and the duration of the current also varies. Similar observations have been made by the Swedish ASEA company when testing small-oil-volume circuit breakers.

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110-S1-6-7/22
Switching Over-voltages When Using Small-oil-volume Circuit-breaker
Type MG-110 to Disconnect Unloaded Transformers and Lines

On the basis of all the tests made, it is concluded that small-oil-volume circuit-breakers, types MG-110 and MG-110B successfully disconnect unloaded transformers and lines without giving rise to dangerous over-voltages. There are 6 figures and 6 references, 1 of which is Soviet, 2 German and 3 English.

ASSOCIATION: Leningradskiy politekhnicheskii institut
(Leningrad Polytechnical Institute)

SUBMITTED: July 29, 1957
Card 7/7 1. Circuit breakers--Test results

AUTHORS: Kaplan, V. V., Candidate of Technical Sciences, Mashketyr', V. M., Candidate of Technical Sciences SOV/105-55-10-14/28

TITLE: On the Utilization of the Method of Testing Individual Arc-Extinguishing Elements in High-Voltage Circuit Breakers (O primeneniі metoda ispytaniy otdel'nykh dugougasitel'nykh elementov vysokovol'tnykh vyklyuchateley)

PERIODICAL: Elektrichestvo, 1958, Nr 10, pp 29 - 65 (USSR)

ABSTRACT: The majority of 110 - 400 kV circuit breakers are, when subjected to test runs in laboratories, at present checked by means of testing the individual series breaks. This procedure gives rise to the question whether such checks can be equivalent to actual operating conditions and to what degree they are reliable. In this study the problem is approached from a somewhat different point of view. The investigation of which this paper gives an account is based upon the experimental information resulting from the testing of circuit breakers with several series breaks. These test runs were carried out in the Laboratory TVN imeni Goreva LPI in 1954. In this

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On the Utilization of the Method of Testing Individual Arc-Extinguishing Elements in High-Voltage Circuit Breakers 307/103-104 6-14/28

paper, part of the information known from literature is presented. On the strength of the analysis of the breaker performance, utilizing principles from the theory of probability, which procedure is partially substantiated by the experimental data presented, the following conclusions can be drawn: 1) The interruptive duty of a circuit breaker with several series breaks can be determined in a rather reliable manner by summing the lower limits of the interrupting duty of the individual breaks. These values are determined under the following conditions, at equal current values for the individual breaks: a) The breaker elements have an identical construction and do not exert a noticeable influence upon each other. b) No low-ohmic parallel resistances or larger capacitors are connected with the individual breaker elements. 2) If low-ohmic resistances or larger capacitors are connected in parallel to each break the computation of the total interrupting duty from the duties of the individual

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elements may become inadmissible. This is due to the fact that the arc-extinguishing power at the full voltage across the breaker may probably be lower than the sum of the individual values determined for the separated breaker elements. 3) The installation of high-ohmic parallel resistances will, under certain conditions, exert no noticeable influence upon the interrupting duty of the circuit breaker. There are 5 figures and 3 references, 2 of which are Soviet.

ASSOCIATION: Leningradskiy Politehnicheskii institut (Leningrad Polytechnical Institute)

SUBMITTED: August 25, 1957

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8(2)

AUTHORS:

Kaplan, V. V., Candidate of Technical Sciences, SOV/105-58-11-7/29
Mashatyr', V. M., Candidate of Technical Sciences,
Ivanov, V. L., Engineer

TITLE:

A Synthetic Method of Testing High-Voltage Switches
(Sinteticheskiy metod ispytaniya vysokovol'tnykh vyklyuchateley)

PERIODICAL:

Elektrichestvo, 1958, Nr 11, pp 29-35 (USSR)

ABSTRACT:

In 1957 a wiring circuit was elaborated and put into practice at the Laboratoriya tekhniki vysokikh napryazheniy imeni Goreva Leningradskogo politekhnicheskogo instituta (Laboratory for High-Voltage Engineering imeni Gorev at the Leningrad Polytechnic Institute) on the basis of an oscillatory circuit. This makes it possible to test quick-break switches by synthetical means. The switches operate with a single automatic reclosure cycle (switching off - switching on - switching off). Conditions for carrying out equivalent synthetical switch tests in the automatic reclosure cycle and the basic wiring scheme of the testing device are described. The synthetic scheme was checked in connection with the testing of air-switches. The oscillogram obtained shows that with lacking compensation of current- and voltage reduction the amplitude of the switching-off

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current at the third operation of the automatic reclosure cycle is smaller by about 25% than that of the initial current. The re-established voltage is reduced by the same amount with respect to the initial voltage. - When testing switches by means of compensating circuits, the reduction of current and voltage is entirely avoided. The amplitudes of all three currents as well as the initial and re-established voltages have the same values. The electron beam oscillograms show that the synchronizing devices worked out permit a very accurate adjustment of the testing device. There are 6 figures and 3 Soviet references.

ASSOCIATION: Leningradskiy politekhnicheskii institut
(Leningrad Polytechnic Institute)

SUBMITTED: January 20, 1958

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8(2, 3)

SOV/112-59-5-8976

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5,
pp 78-79 (USSR)

AUTHOR: Kaplan, V. V., and ~~Nashatyr', V. M.~~

TITLE: Methods for Producing Continuous Oscillations, Without Rotating
Machinery, in Outfits Similar to A. A. Gorev's Oscillatory Circuit

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1958, Nr 195, pp 425-450

ABSTRACT: To secure equivalent test conditions, schemes are necessary which would produce continuous oscillations in the oscillatory circuit used for testing the rupturing capacity of circuit-breakers with a few half-cycles arcing and for testing other arc-interrupting equipment. Continuous oscillations can be produced in coupled oscillatory circuits where, under certain conditions, the current in the inductance and the voltage on the capacitor are beat oscillations. If the energy supply to the testing circuit over each half-cycle be equal to the energy consumption in the equipment being tested plus the active losses in the circuit, then, for a certain time, a practically continuous current will flow in

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the equipment. A scheme of coupled oscillatory circuits and its parameters for the case when the additional circuit is connected to the testing circuit with a delay was described elsewhere. It was pointed out that optimum conditions of the coupled circuits can also be obtained with a simultaneous switching on of the batteries. Circuit parameter selection and tuning conditions are presented. To obtain continuous oscillations of current and voltage, an incomplete scheme of the oscillatory circuit comprising two inductances and two capacitances can be used; also, schemes that combine oscillatory currents and voltages can be used. An analysis of scheme functioning and a selection of optimum parameters are given. Sometimes, it is difficult to obtain the optimum mode of operation in the incomplete coupled-circuit scheme. It is preferable to use a current-combining scheme; for testing in a conventional oscillatory circuit, an incomplete coupled-circuit scheme should be used; for the case of long-time arcing, the complete coupled-circuit scheme should be used. Scheme functioning is analyzed with a view toward testing the carrying capacity of valve-

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type lightning arresters and the interrupting capacity of high-voltage circuit-breakers. Test oscillograms are presented. The coupled oscillatory circuits and the combining schemes can be used for testing the interrupting capacity of high-voltage circuit-breakers in the entire range of their interrupting currents and for testing the carrying capacity of valve-type lightning arresters. Coupled oscillatory circuits can be used in both conventional and synthetic schemes. The oscillatory-voltage combining scheme can be used for testing circuit-breakers that interrupt small currents and for testing valve-type arresters; the oscillatory-current combining scheme can be used for synthetic schemes. Bibliography: 6 items.

I. P. Shch.

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SOV/112-59-5-8974

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5, p 78 (USSR)

AUTHOR: Kaplan, V. V., and Nashatyr', V. M.

TITLE: Testing Large High-Voltage Circuit-Breakers Whose Arcing Lasts for a Few Half-Periods by Means of a Two-Frequency Oscillatory Circuit

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1958, Nr 195, pp 451-459

ABSTRACT: Testing large high-voltage circuit-breakers whose arcing lasts for a few half-periods by means of a two-frequency oscillatory circuit requires scheme parameters which would lower the effective testing power of the oscillatory circuit. To ensure the above tests and to increase efficiency of the testing outfit, the scheme is to be supplemented by these two additional hookups: an igniting circuit that would ensure maintaining the arc during the first current zeros, and a feeding circuit that would ensure a continuous working current for the entire period of arcing in the circuit-breaker. A precharged capacitor bank that is automatically connected in parallel with the circuit-breaker being tested

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Testing Large High-Voltage Circuit-Breakers Whose Arcing Lasts for a Few

by means of a synchronizing device is used for the arc ignition. To ensure a continuous working current, a scheme of coupled oscillatory circuits and a scheme of combining the oscillatory currents developed by the authors are used. A sequence of circuit-component functioning in the two-frequency oscillatory circuit with the above feed and ignition is shown. Tests of a low-oil-content circuit-breaker have shown that, with the equipment available at the laboratory, the combined-oscillatory-currents scheme is preferable for obtaining a continuous working current. Bibliography: 3 items.

I. P. Shch.

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SOV/112-59-3-4927

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 3, p 90 (USSR)

AUTHOR: Kaplan, V. V., Nashatyr', V. M., and Sherman, Ya. N.

TITLE: Determination of Permissible Number of Short-Circuit-Current Interruptions by a Low-Oil-Content Circuit Breaker on the Basis of the Impaired Electric Strength of Its Internal Insulation (Opredeleniye dopustimogo chisla otklyucheniya toka korotkogo zamykaniya malomaslyanykh vyklyuchatelem po usloviyam snizheniya elektricheskoy prochnosti yego vnutrenney izolyatsii)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1958, Nr 195, pp 460-475

ABSTRACT: Methods are developed for determining the guaranteed number of short-circuit-current interruptions by a low-oil-content circuit breaker; the methods are based on investigations of the internal insulation of a type MG-110 low-oil-content "Elektroapparat" make circuit breaker, conducted in the high-voltage laboratory of LPI. (1) First, the circuit breaker is to be tested for

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many interruptions of its rated short-circuit current. It is permitted to stage these tests at a considerably lower voltage; however, the time of arc burning should be as long as the time under actual short-circuit clearing conditions. From the standpoint of chamber-insulation contamination, such test conditions

are equivalent to the conditions of breaker operation under its rated voltage. (2) Then the internal-insulation resistance should be measured by a megommeter, leakage currents due to an applied rectified voltage should be

determined, and oil samples should be taken. (3) As a next step, the insulation of the breaker with open contacts is tested by an oscillatory voltage similar to the actual recovery voltage; the crest value of the testing voltage is selected

equal to the most probable surge voltage observed in the network in question. The above tests can be staged by means of a "switching-surge generator"

developed and built in the high-voltage LPI laboratory (a detailed description of the device is presented). In selecting frequency of the test voltage, it

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should be kept in mind that the insulation is more strained with a lower frequency of the surge-voltage oscillations. (4) Measurements according to items 2 and 3 are repeated with gradually increasing surge amplitudes in order to determine the margin of the insulation under test. (5) The insulation measurement according to item 2 is repeated; thereupon, to the breaker or to its individual arc-rupturing contacts a commercial-frequency voltage is applied which exceeds by 20-25% the voltage most probable under the operating conditions of the breaker in question. (6) If the state of insulation permits, the testing procedure (items 1-5) is again repeated. The investigations by the above method have shown that, after 80 or more openings (of currents close to the rated duty 13,200 amp), the MG-110 breaker and its internal insulation have been in good condition: infinite insulation resistance and leakage current of 1 microamp or less, the insulation has withstood AC voltage for 8 hours and also surge impulses with peak values as high as 7 times the line-to-ground

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voltage. The chamber insulation was impaired only when surge impulses were applied after 94 openings of short-circuit currents. The authors permit 10 openings of short-circuit currents by the MG-110 breaker under operating conditions, with inspection or oil change. Investigation results are tabulated.

R.A.M.

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SOV/112-59-2-2948

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 98 (USSR)

AUTHOR: Kaplan, V. V., and Nashatyr', V. M.

TITLE: Some Points Concerning the Physics of AC Arc Extinguishing in High-Voltage Circuit-Breakers. (O nekotorykh voprosakh fizicheskogo predstavleniya protsessa gasheniya dugi peremennogo toka v vysokovol'tnykh vyklyuchatelyakh)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1958, Nr 195, pp 476-494

ABSTRACT: On the basis of investigations and tests of high-voltage equipment made on A. A. Gorev's impulse generator at the high-voltage laboratory, Leningrad Polytechnic Institute, and also on the basis of a generalization of published theoretical and experimental data, an attempt is made to consider qualitatively some fundamental physical notions associated with the AC arc. The article considers arc-gap current and voltage waveshapes that are observed in the course of rupturing inductive currents (in long arcs) at and past current zero for the cases of zero and nonzero capacitance C_a that shunts the

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arc gap. A theoretical analysis shows that with $C_a = 0$, the current approaches zero more rapidly than, and passes zero with equal rapidity^{as} in the case of the sinusoidal shape. It is noted that with the voltage recovering across the arc gap a small reverse current, the residual current, passes through the gap; this current was discovered experimentally. An analysis given in the article shows that the recovery voltage can assume values exceeding its steady-state value even with no shunting capacitance. This phenomenon was confirmed experimentally. It is pointed out that with $C_a \neq 0$, the extinguishing peak, other things being equal, must be lower than with $C_a = 0$, and that the voltage across the arc gap and the current in it with $C_a \neq 0$ and also with $C_a = 0$ pass their zero values simultaneously. It is noted that in the case of $C \neq 0$, a residual current, too, flows through the arc gap. If this residual current amounts to a fraction of the current through C_a , it has no appreciable effect on the waveshape of the recovery voltage; however, this residual current sustains the arcing (or

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near-arcing) type of the discharge and predetermines further development of the process. In those arc interrupters where residual currents are considerable, so that they are commensurable with the currents in the shunting capacitance, these currents determine the waveshape of the recovery voltage. Various cases of arc extinguishment in circuit-breakers observed during the tests are considered and reduced to 6 fundamental groups. Voltage waveshape on the arc gap during the arc interruption is a criterion for subdividing into the above 6 groups. It is pointed out that various phenomena observed during arc interruption in a circuit-breaker cannot be explained by the theory of recovery of the arc-gap dielectric strength after zero current. (For example, this viewpoint cannot explain the cases when the gap breakdown takes place a considerable time after the voltage has been applied to it; before the breakdown occurs, the voltage passes zero several times and attenuates appreciably; nor can this theory explain the cases when the breakdown occurs on the falling-off section of

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the recovery-voltage amplitude curve.) It is shown theoretically that the energy theory of arc extinguishing permits explaining all cases subdivided into the above 6 groups and all phenomena accompanying arc interruption in a circuit-breaker. This, however, does not exclude the probability that further studies may detect more complicated cases, when along with energy relations at individual stages of the interruption process, other phenomena associated with the rising dielectric strength of the arc gap can be of significance. Curves are presented that explain the phenomena in the region of zero current and the phenomena of voltage recovery across the circuit breaker. Bibliography: 10 items.

T.V.V.

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8(3)

SOV/112-59-4-6906

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 4, p 71 (USSR)

AUTHOR: Kaplan, V. V., and Naghatyr', V. M.

TITLE: Methods for Investigating High-Voltage Circuit-Breakers in a Laboratory Under Conditions Equivalent to Cutting-Off a No-Load Line

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1958, Nr 195, pp 495-506

ABSTRACT: A laboratory outfit intended to imitate conditions of actual equipment should have the following fundamental quantities represented: amplitude and frequency of voltage, amplitude and frequency of capacitive current, transient-current curve (the natural frequency of the current and its average value over a half-cycle), damping factor of the current curve and transient-voltage curve, the recovery-voltage curve corresponding to the transient-current zero (for a terminal or a through substation). The suggested equivalent testing scheme consists of an EMF source, a single-section no-load-line equivalent circuit, and suitable absorbing resistors. An impulse generator or A. A. Gorev's oscillatory circuit can serve as an EMF source.

S.S.Sh.

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